Amendment to the Specification:

1. Please amend the paragraph at page 1, lines 4 – 13 as shown below:

This application is a continuation-in-part of International Application No. PCT/US03/00273 (Jan. 7, 2003), which is a non-provisional of U.S. Provisional Application No. 60/346,721 (Jan. 7, 2002); International Application No. PCT/US03/00516 (Jan. 8, 2003), which is a non-provisional of U.S. Provisional Application No. 60/346,555 (Jan. 8, 2002); International Application No. PCT/US03/18859 (Jun. 13, 2003), which is a non-provisional of U.S. Provisional Application No. 60/319,318 (Jun. 14, 2002); and International Application No. PCT/US03/20268 (Jun. 26, 2003), which is a non-provisional of U.S. Provisional Application No. 60/319,358 (Jun. 26, ~~2003~~2002). Each of the applications referenced above is incorporated by reference herein.

2. Please amend the paragraph at page 3, lines 1 – 9 as shown below:

Excess suction may be caused by occlusion of the tip of the inflow cannula or by completely emptying the ventricle (ventricular collapse). In known pump systems, sustained excess suction typically triggers a diagnostic alarm on the pump controller. However, it would be desirable to detect the onset of suction prior to any ~~physiologic~~physiological ~~affect~~effect. Additionally, it is typical of known methods that attempt to detect the onset or presence of ventricular collapse to use a binary "suction detect" flag when the onset of suction is believed to have been discovered. Information in addition to a simple binary indicator, however, is desirable as it would allow a physician or technician to make a more precise diagnosis.

3. Please amend the paragraph at page 8, lines 15 - 20 as shown below:

The embodiment shown in FIG. 3 further includes an integral flow meter 86. At least one flow sensor 14 is implanted down stream of the pump 12. Alternately, a flow sensor 14 may be integrated with the pump 12. The flow meter 86 is coupled between the implanted flow sensor 14 and the microcontroller 80. The flow meter 86 receives data from the flow sensor 14 and outputs flow rate ~~date~~ data to the microcontroller 80, allowing the system to monitor instantaneous flow rate.

4. Please amend the paragraph at page 11, lines 1 - 5 as shown below:

The commutation and PWM loops have, because of their associated filter networks, individual frequency and time domain responses associated with them. The frequency range over which the loop system will follow changes in the input frequency is called the lock-in range. The frequency range over which the loop acquires phase-lock is the capture range, and is, in this system, less than the ~~lock~~ lock-in range.

5. Please amend the paragraph spanning pages 22, line 19 – page 23, line 7 as shown below:

In accordance with embodiments of the invention, the excess suction operation 104 uses spectral analysis equations to ~~processing~~ process the frequency domain data representation and generate suction probability indexes. These spectral analysis equations include analyses based on harmonic distortion, total spectral distortion (harmonic distortion and noise), sub-fundamental distortion (distortion below the fundamental frequency), super-fundamental distortion (distortion above the fundamental frequency), the ratio of the super-fundamental distortion to the sub-fundamental distortion, super-physiologic distortion (distortion at frequencies above the assumed maximum physiologic fundamental frequency--typically 4 Hz or 240 BPM), and the spectral dispersion or "width" of the resulting flow(f) waveform. These spectral analysis techniques are addressed in detail as follows.